

AMENDMENTS TO THE CLAIMS:

Please amend claims 1-18, and add new claims 19-22, as shown below.

This listing of claims will replace all prior versions and listings of claims in the
Application:

Claim 1 (currently amended): An image taking apparatus, comprising:

a solid state image taking device which converts an optical image of a subject to be
taken to analog video signals and outputs said analog video signals;

a system controller that generates a bit number converting signal;

an analog to digital (A/D) converter which converts at a designated quantization bit
number said analog video signals outputted from said solid state image taking device to digital
video signals having said designated quantization bit number;

a digital signal processor (DSP) which ~~applies~~ receives said bit number converting
signal and generates a designated signal processing bit number that is used in an image process
applied to said digital video signals outputted from said A/D converter at a designated signal
processing bit number;

a displaying apparatus which displays said digital video signals outputted from said
DSP; and

a recording medium which stores said digital video signals outputted from said
DSP[.,,];

wherein[[:] said designated quantization bit number and said designated signal
processing bit number at said A/D converter [[:]] are variable.

HAYES SOLOWAY P.C.
130 W. CUSHING STREET
TUCSON, AZ 85701
TEL. 520.882.7623
FAX. 520.882.7643

175 CANAL STREET
MANCHESTER, NH 03101
TEL. 603.668.1400
FAX. 603.668.8567

Claim 2 (currently amended): 2. An image taking apparatus in accordance with claim 1, wherein~~[[:]]~~ said A/D converter makes said quantization bit number ~~in case that~~ when said digital video signals are displayed on said displaying apparatus smaller than the quantization bit number ~~in case that~~ when said digital video signals are stored in said recording medium.

Claim 3 (currently amended): An image taking apparatus in accordance with claim 1, further comprising:

an interface (I/F) circuit which transfers said digital video signals outputted from said DSP to said recording medium in which said digital video signals are recorded, or transfers said digital video signals outputted from said DSP to an external apparatus,

wherein~~[[:]]~~ said A/D converter makes said quantization bit number ~~in case that~~ wherein said digital video signals are displayed on said displaying apparatus smaller than the quantization bit number ~~in case that~~ when said digital video signals are transferred to said external apparatus through said I/F circuit.

Claim 4 (currently amended): An image taking apparatus in accordance with claim 1, wherein~~[[:]]~~ said signal processing bit number at said DSP is variable, and said signal processing bit number is made to be the same bit number of said quantization bit number at said A/D converter, ~~in case that~~ when said digital video signals are displayed on said displaying apparatus.

Claim 5 (currently amended): An image taking apparatus in accordance with claim 1, further comprising:

a mode setting switch for setting an operation mode at said image taking apparatus[[: and]] ,

wherein said [[a]] system controller ~~which~~ generates [[a]] said bit number converting signal for setting said quantization bit number at said A/D converter and said signal processing bit number at said DSP based on said operation mode set at said mode setting switch, and outputs said bit number converting signal to said A/D converter and said DSP,

wherein: said A/D converter sets said quantization bit number based on said bit number converting signal outputted from said system controller[[:]] ~~and said DSP sets said signal processing bit number based on said bit number converting signal outputted from said system controller.~~

Claim 6 (currently amended): An image taking apparatus in accordance with claim 5, wherein[[:]] said system controller, in case that said digital video signals stored in said recording medium are displayed on said displaying apparatus, stops operation of said solid state image taking device, said A/D converter, and said DSP.

Claim 7 (currently amended): An image taking apparatus in accordance with claim 5, wherein[[:]] said mode setting switch, in case that said digital video signals have been stored in said recording medium, selects whether said digital video signals stored in said recording medium are made to display on said displaying apparatus or not.

Claim 8 (currently amended): An image taking apparatus in accordance with claim 1, further comprising[[:]] a displaying apparatus driver for making said digital video signals display on said displaying apparatus by thinning out a part of said digital video signals outputted from said DSP.

Claim 9 (currently amended): An image taking apparatus in accordance with claim 1, wherein[[:]] said image taking apparatus is an electronic still camera.

Claim 10 (currently amended): An image taking apparatus, comprising:
a solid state image taking device which converts an optical image of a subject to be taken to analog video signals and outputs said analog video signals;
a system controller that generates a bit number converting signal;
an analog to digital (A/D) converter which converts at a designated quantization bit number said analog video signals outputted from said solid state image taking device to digital video signals having said designated quantization bit number;
a digital signal processor (DSP) which ~~applies~~ receives said bit number converting signal and generates a designated signal processing bit number that is used in an image process applied to said digital video signals outputted from said A/D converter at a designated signal processing bit number;
a displaying apparatus which displays said digital video signals outputted from said DSP; and
a recording medium which stores said digital video signals outputted from said DSP,
wherein[[:]] said A/D converter provides plural A/D converting sections in which the quantization bit number of each of said plural A/D converting sections is different between them and is fixed, and either one of said plural A/D converting sections converts said analog video signals outputted from said solid state image taking device to digital video signals, and outputs said digital video signals to said DSP, and
wherein said signal processing bit number is variable.

Claim 11 (currently amended): An image taking apparatus in accordance with claim 10, further comprising:

a switching circuit which selects one of said plural A/D converting sections that has smaller quantization bit number than the other of said plural A/D converting sections which is selected at the time when said digital video signals are stored in said recording medium, in case that said digital video signals are displayed on said displaying apparatus,

wherein[[:]] said digital video signals outputted from said A/D converting section selected by said switching circuit are inputted to said DSP.

Claim 12 (currently amended): An image taking apparatus in accordance with claim 10, further comprising:

an interface (I/F) circuit which transfers said digital video signals outputted from said DSP to said recording medium in which said digital video signals are recorded, or transfers said digital video signals outputted from said DSP to an external apparatus,

wherein[[:]] said switching circuit, in case that said digital video signals are displayed on said displaying apparatus, selects one of said plural A/D converting sections whose quantization bit number is smaller than the other A/D converting section that is selected at the time when said digital video signals are transferred to an external apparatus through said I/F circuit.

Claim 13 (currently amended): An image taking apparatus in accordance with claim 10, wherein:

~~said signal processing bit number at said DSP is variable, and~~
number ~~in case that~~ when said digital video signals are displayed on said displaying apparatus

is made to be the same bit number of said quantization bit number at said A/D converting section selected by said switching circuit.

Claim 14 (currently amended): An image taking apparatus in accordance with claim 10, further comprising:

a mode setting switch for setting an operation mode at said image taking apparatus[; and]]

wherein said [[a]] system controller which generates an A/D converting section changing signal for switching said switching circuit based on said operation mode set by said mode setting switch and outputs said generated A/D converting section changing signal to said switching circuit, and also generates [[a]] said bit number converting signal for setting said signal processing bit number at said DSP based on said operation mode set at said mode setting switch, and outputs said bit number converting signal to said DSP, and

wherein[[:]] said switching circuit selects either one of said plural A/D converting sections based on said AD converting section changing signal outputted from said system controller;~~and~~

~~said DSP sets said signal processing bit number based on said bit number converting signal outputted from said system controller.~~

Claim 15 (currently amended): An image taking apparatus in accordance with claim 14, wherein[[:]] said system controller, ~~in case that~~ when said digital video signals stored in said recording medium are displayed on said displaying apparatus, stops operation of said solid state image taking device, said A/D converter, and said DSP.

Claim 16 (currently amended): An image taking apparatus in accordance with claim 14, wherein[[[:]] said mode setting switch, ~~in case that~~ when said digital video signals have been stored in said recording medium, selects whether said digital video signals stored in said recording medium are made to display on said displaying apparatus or not.

Claim 17 (currently amended): An image taking apparatus in accordance with claim 10, further comprising[[[:]] a displaying apparatus driver for making said digital video signals display on said displaying apparatus by thinning out a part of said digital video signals outputted from said DSP.

Claim 18 (currently amended): An image taking apparatus in accordance with claim 10, wherein[[[:]] said image taking apparatus is an electronic still camera.

Claim 19 (new): An image taking apparatus, comprising:

a solid state image taking device which converts an optical image of a subject to be taken to analog video signals and outputs said analog video signals;

an analog to digital (A/D) converter which converts at the designated quantization bit number said analog video signals outputted from said solid state image taking device to digital video signals having said designated quantization bit number;

a digital signal processor (DSP) which applies an image process to said digital video signals outputted from said A/D converter at a designated signal processing bit number;

a displaying apparatus which displays said digital video signals outputted from said DSP; and

a recording medium which stores said digital video signals outputted from said DSP,

wherein said designated quantization bit number at said A/D converter is variable, and

wherein said A/D converter makes said quantization bit number ~~in case that~~ when said digital video signals are displayed on said displaying apparatus smaller than the quantization bit number when said digital video signals are stored in said recording medium.

Claim 20 (new): An image taking apparatus, comprising:

a solid state image taking device which converts an optical image of a subject to be taken to analog video signals and outputs said analog video signals;

an analog to digital (A/D) converter which converts at the designated quantization bit number said analog video signals outputted from said solid state image taking device to digital video signals having said designated quantization bit number;

a digital signal processor (DSP) which applies an image process to said digital video signals outputted from said A/D converter at a designated signal processing bit number;

a displaying apparatus which displays said digital video signals outputted from said DSP;

a recording medium which stores said digital video signals outputted from said DSP;
and

an interface (I/F) circuit which transfers said digital video signals outputted from said DSP to said recording medium in which said digital video signals are recorded, or transfers said digital video signals outputted from said DSP to an external apparatus,

wherein said A/D converter makes said quantization bit number when said digital video signals are displayed on said displaying apparatus smaller than the quantization bit number when said digital video signals are transferred to said external apparatus through said I/F circuit, and

wherein said designated quantization bit number at said A/D converter is variable.

Claim 21 (new): An image taking apparatus, comprising:

a solid state image taking device which converts an optical image of a subject to be taken to analog video signals and outputs said analog video signals;

an analog to digital (A/D) converter which converts at a designated quantization bit number said analog video signals outputted from said solid state image taking device to digital video signals having said designated quantization bit number;

a digital signal processor (DSP) which applies an image process to said digital video signals outputted from said A/D converter at a designated signal processing bit number;

a displaying apparatus which displays said digital video signals outputted from said DSP;

a recording medium which stores said digital video signals outputted from said DSP;
and

a switching circuit which selects one of said plural A/D converting sections that has smaller quantization bit number than the other of said plural A/D converting sections which is selected at the time when said digital video signals are stored in said recording medium, in case that said digital video signals are displayed on said displaying apparatus,

wherein said A/D converter provides plural A/D converting sections in which the quantization bit number of each of said plural A/D converting sections is different between them and is fixed, and either one of said plural A/D converting sections converts said analog video signals outputted from said solid state image taking device to digital video signals, and outputs said digital video signals to said DSP, and

wherein said digital video signals outputted from said A/D converting section selected by said switching circuit are inputted to said DSP.

Claim 22 (new): An image taking apparatus, comprising:

a solid state image taking device which converts an optical image of a subject to be taken to analog video signals and outputs said analog video signals;

an analog to digital (A/D) converter which converts at a designated quantization bit number said analog video signals outputted from said solid state image taking device to digital video signals having said designated quantization bit number;

a digital signal processor (DSP) which applies an image process to said digital video signals outputted from said A/D converter at a designated signal processing bit number;

a displaying apparatus which displays said digital video signals outputted from said DSP;

a recording medium which stores said digital video signals outputted from said DSP;
and

an interface (I/F) circuit which transfers said digital video signals outputted from said DSP to said recording medium in which said digital video signals are recorded, or transfers said digital video signals outputted from said DSP to an external apparatus,

wherein said A/D converter provides plural A/D converting sections in which the quantization bit number of each of said plural A/D converting sections is different between them and is fixed, and either one of said plural A/D converting sections converts said analog video signals outputted from said solid state image taking device to digital video signals, and outputs said digital video signals to said DSP, and

wherein said switching circuit, in case that said digital video signals are displayed on said displaying apparatus, selects one of said plural A/D converting sections whose quantization bit number is smaller than the other A/D converting section that is selected at the time when said digital video signals are transferred to an external apparatus through said I/F circuit.

HAYES SOLOWAY P.C.
130 W. CUSHING STREET
TUCSON, AZ 85701
TEL. 520.882.7623
FAX. 520.882.7643

175 CANAL STREET
MANCHESTER, NH 03101
TEL. 603.668.1400
FAX. 603.668.8567